This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) A microscope inspection apparatus for inspecting a specimen comprising:

an objective lens having high magnification and a first end positioned proximate to the specimen;

a field of view of the microscope inspection apparatus; and

more than one detector array positioned substantially within the field of view.

2. (cancelled)

3. (previously presented) A microscope inspection apparatus as recited in claim 1 wherein the magnification power of the objective lens is at least approximately 40X.

4. (original) A microscope inspection apparatus as recited in claim 1 wherein the objective lens is configured to have a high numerical aperture.

5. (original) A microscope inspection apparatus as recited in claim 4 wherein the numerical aperture is at least approximately 0.45.

6. (currently amended) A microscope inspection apparatus as recited in claim 1 wherein the inspection apparatus can achieve a resolution of approximately **0.5μm** ~~**0.5um**~~ or less.

7. (original) A microscope inspection apparatus as recited in claim 1 wherein the objective lens is a catadioptric lens.

8. (original) A microscope inspection apparatus as recited in claim 1 further comprising:

a reimaging lens having a first end that is positioned proximate to a second end of the objective lens, the second end of the objective lens being opposite to the first end of the objective lens.

9. (original) A microscope inspection apparatus as recited in claim 8 further comprising:

a zoom lens that is positioned proximate to a second end of the reimaging lens, the second end of the reimaging lens being opposite to the first end of the reimaging lens, the zoom lens configured to zoom or change the magnification of the microscope inspection apparatus.

10. (original) A microscope inspection apparatus as recited in claim 1 further comprising:

a zoom lens that is positioned proximate to a second end of the objective lens that is opposite to the first end of the objective lens, the zoom lens configured to zoom or change the magnification of the microscope inspection apparatus.

11. (original) A microscope inspection apparatus as recited in claim 1 further comprising:

a tube lens that is positioned proximate to a second end of the objective lens that is opposite to the first end of the objective lens.

12. (original) A microscope inspection apparatus as recited in claim 1 wherein a split point refers to the point at which light emanating from the objective lens completely separates into two individual bundles of light, the inspection apparatus further comprising:

a reflective element positioned between the objective lens and the detector arrays, the reflective element configured to direct at least one of the bundles of light towards one of the detector arrays, wherein the reflective element is positioned on the side of the split point that is opposite from the objective lens.

13. (previously presented) A microscope inspection apparatus as recited in claim 12 wherein the reflective element directs light in two opposite directions and wherein two respective detector arrays are configured to receive the light from the reflective element.

14. (original) A microscope inspection apparatus as recited in claim 1 wherein a split point refers to the point at which light emanating from the objective lens completely separates into two individual bundles of light, and wherein two detector array are positioned such that each detector array receives light from a respective bundle of light.

15. (original) A microscope inspection apparatus as recited in claim 1 wherein the objective lens is made completely of refractive materials.

16. (original) A microscope inspection apparatus as recited in claim 1 wherein the field of view is aligned with a two axis coordinate system wherein the first and second axis are orthogonal to each other and the first axis is parallel to the scanning direction of inspection apparatus, and wherein at least one detector array lies within each and every position along the second axis regardless of the detector array's position along the first axis.

17. (original) A microscope inspection apparatus as recited in claim 1 further comprising a light source for directing light into the inspection apparatus and illuminating a portion of the specimen, wherein the light source is of a type selected from a group consisting of a continuous wave laser, a pulsed laser, and an arc lamp.

18. (original) A microscope inspection apparatus as recited in claim 1 further comprising:

a chuck for supporting the specimen; and

a tilting device for tilting the chuck during inspection so that substantially all of the specimen within the field of view is in focus with respect to each of the detector arrays.

19. (original) A microscope inspection apparatus as recited in claim 1 further comprising:

at least one adjusting device configured to adjust the position of a respective detector array so that the detector array can be moved into focus with respect to an inspected portion of the specimen.

20. (original) A microscope inspection apparatus for inspecting a semiconductor wafer comprising:

a catadioptric objective lens configured to have a high magnification, a high numerical aperture, and a large field of view, a first end of the objective lens positioned proximate to the semiconductor wafer;

a reimaging lens positioned adjacent to the catadioptric objective lens;

a zoom lens that is positioned proximate to the reimaging lens, the reimaging lens positioned in between the zoom lens and the objective lens;

a split point being the point at which light emanating from the zoom lens completely separates into two individual bundles of light; and

more than one detector array positioned substantially within the field of view of the microscope inspection apparatus and configured to receive light from each of the individual bundles of light.

21. (original) A microscope inspection apparatus as recited in claim 20 further comprising:

a reflective element positioned between the split point and the detector arrays, the reflective element configured to direct at least one of the bundles of light towards one of the detector arrays.

22. (currently amended) A microscope inspection apparatus as recited in claim 20 wherein the inspection apparatus can achieve a resolution of approximately **0.5μm** ~~**0.5um**~~ or less.

23. (original) A microscope inspection apparatus as recited in claim 20 wherein the field of view is aligned with a two axis coordinate system wherein the first and second axis are orthogonal to each other and the first axis is parallel to the scanning direction of inspection apparatus, and wherein at least one detector array lies within each and every position along the second axis regardless of the detector array's position along the first axis.

24. (original) A microscope inspection apparatus as recited in claim 20 further comprising:

at least one adjusting device configured to adjust the position of a respective detector array so that the detector array can be moved into focus with respect to an inspected portion of the semiconductor wafer.

25. (previously presented) A microscope inspection apparatus for inspecting a specimen comprising:

a objective lens configured to have a large field of view, a first end of the objective lens positioned proximate to the specimen;

a split point being the point at which light emanating from the objective lens completely separates into two individual bundles of light;

more than one detector array positioned substantially within the field of view of the microscope inspection apparatus and configured to receive light from each of the individual bundles of light; and

a reflective element positioned between the split point and the detector arrays, the reflective element configured to direct at least one of the bundles of light towards one of the detector arrays.

26. (currently amended) A microscope inspection apparatus as recited in claim 25 wherein the inspection apparatus can achieve a resolution of approximately **0.5μm** ~~**0.5um**~~ or less.

27. (original) A microscope inspection apparatus as recited in claim 25 wherein the field of view is aligned with a two axis coordinate system wherein the first and second axis are orthogonal to each other and the first axis is parallel to the scanning direction of inspection apparatus, and wherein at least one detector array lies within each and every position along the second axis regardless of the detector array's position along the first axis.

28. (previously presented) A microscope inspection system for use in a semiconductor manufacturing process comprising:

a semiconductor wafer;

an objective lens having high magnification and a first end positioned proximate to the semiconductor wafer;

a field of view of the microscope inspection system; and

more than one detector array positioned substantially within the field of view.

29. (cancelled)

30. (original) A microscope inspection system as recited in claim 28 wherein the objective lens is configured to have a high numerical aperture.

31. (currently amended) A microscope inspection system as recited in claim 28 wherein the microscope inspection system can achieve a resolution of approximately **0.5μm** ~~**0.5um**~~ or less.

32. (original) A microscope inspection system as recited in claim 28 wherein a split point refers to the point at which light emanating from the objective lens completely separates into two individual bundles of light, the microscope inspection system further comprising:

a reflective element positioned between the objective lens and the detector arrays, the reflective element configured to direct at least one of the bundles of light towards one of the detector arrays, wherein the reflective element is positioned on the side of the split point that is opposite from the objective lens.

33. (currently amended) A method for inspecting semiconductor wafers using a microscope inspection apparatus comprising:

securing a semiconductor wafer to a chuck;

positioning a first end of an objective lens proximate to a surface of the semiconductor wafer, wherein the objective lens is configured to have high magnification;

positioning more than one detector array substantially within a field of view of the microscope inspection apparatus;

scanning the objective lens over the semiconductor wafer; and

processing information collected from the microscope inspection **apparatus** ~~system~~ during the scanning operation.

34. (original) A method as recited in claim 33 wherein the objective lens is configured to have a magnification of at least approximately 40X.

35. (original) A method as recited in claim 33 wherein the objective lens is configured to have a numerical aperture of at least approximately 0.45.

36. (currently amended) A method as recited in claim 33 wherein the microscope inspection system can achieve a resolution of approximately **0.5μm** ~~0.5um~~ or less.

37. (original) A method as recited in claim 33 wherein a split point refers to the point at which light emanating from the objective lens completely separates into two individual bundles of light, the method further comprising:

positioning a reflective element between the objective lens and the detector arrays at a position that is on the side of the split point opposite from the objective lens; and

using the reflective element to direct at least one of the bundles of light towards one of the detector arrays.

38. (new) A microscope inspection apparatus as recited in claim 1 wherein a surface of the specimen is brought to focus on each detector array.

39. (new) A microscope inspection apparatus as recited in claim 1 wherein the microscope inspection apparatus generates a bright field image of the specimen.

40. (new) A microscope inspection apparatus as recited in claim 1 wherein the microscope inspection apparatus generates a dark field image of the specimen.

41. (new) A microscope inspection apparatus as recited in claim 1 further comprising:

a deep ultraviolet light source or a broadband, deep ultraviolet light source configured to illuminate the specimen.

42. (new) A microscope inspection apparatus as recited in claim 1 further comprising:

a narrowband ultraviolet light source configured to illuminate the specimen.

43. (new) A microscope inspection apparatus as recited in claim 1 further comprising:

a reflective element positioned between the objective lens and the detector arrays, the reflective element configured to direct the light emanating from the objective lens in two or more directions, wherein respective detector arrays are configured to receive the light from the reflective element.

44. (new) A microscope inspection system as recited in claim 28 wherein a surface of the semiconductor wafer is brought to focus on each detector array.

45. (new) A microscope inspection system as recited in claim 28 wherein the microscope inspection system generates a bright field image or a dark field image of the specimen.

46. (new) A microscope inspection system as recited in claim 28 further comprising:

a deep ultraviolet light source or a broadband, deep ultraviolet light source configured to illuminate the semiconductor wafer.

47. (new) A microscope inspection system as recited in claim 28 further comprising:

a narrowband ultraviolet light source configured to illuminate the semiconductor wafer.

48. (new) A method as recited in claim 33 further comprising:

focusing a surface of the semiconductor wafer upon each detector array.

49. (new) A method as recited in claim 33 further comprising:

generating a bright field image or a dark field image of the semiconductor wafer.

50. (new) A method as recited in claim 33 further comprising:

illuminating the semiconductor wafer using a deep ultraviolet light source or a broadband, deep ultraviolet light source.

51. (new) A method as recited in claim 33 further comprising:

illuminating the semiconductor wafer using a narrowband, ultraviolet light source.